

## REMARKS

The Applicant has filed the present Response in reply to the outstanding Official Action of June 24, 2005, and the Applicant believes the Response to be fully responsive to the Official Action for the reasons set forth below in greater detail.

At the onset, Applicant would like to once again thank the Examiner for allowing Claims 7-26 and indicating that Claim 6 has allowable subject matter and would be allowed if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In the outstanding Official Action, the Examiner rejected Claims 1-5 under 35 U.S.C. § 102(e) as being anticipated by Takada 6,088,670. Specifically, the Examiner avers that Takada teaches taking a long time average of the differential. See equation 4, long time average and a second variable, which produces a differential long time average.

Applicant disagrees with the Examiner's rejection and traverses with at least the following analysis.

Applicant submits that the reference fails to teach or suggest the claim limitation of "using a long-time average of **change quantities**, obtained by inputting the change quantities, which correspond to the **variation in time of the feature quantity**." The claim specifically states a "long time average of change quantities" not of a second variable, as the Examiner suggests.

Applicant respectfully submits that the Examiner is misinterpreting the reference.

The reference discloses that the data is sampled, 128 samples constitute one frame. The  $m$ th ( $m=1,2, \dots, 128$ ) sample in the first frame is denoted as  $X(1,m)$ .

The absolute value of each sample value is calculated. Then the short term average and long term average is calculated. Specifically, the reference states:

The short-term average circuit 4 calculates a short-term weighted average value **xst(n,m)** and receives the absolute value **x1(n,m)** of the proceeded frame. On the other hand, the long-term averaging circuit 5 calculates a long-term weighted average value **xlng(n,m)** and **receives the absolute value x1(n,m) of the preceding frame....**Also, these circuits can be provided by adapting a calculator or filter to calculate a 'smoothing average' instead of a mathematical average, that is, a weighted average calculated after each sample input, which tends to provide a smoother output than would be provided if the current sample were weighted heavily in relation to the prior samples or previous calculated average, i.e. it tends to smooth out short term changes. In equations (3) and (4) below, the short-term weighted average value **xst(n,m)** and the long-term weighted average value **xlng (n,m)** are calculated by such a calculation of 'smoothing average,' (by what is hereinafter referred to as a 'smoothing calculation.'

$$xst(n,m)=a*xst(n,m-1)+(1-a)*x1(n,m) \quad (3)$$

$$xlng(n,m)=b*xlng(n,m-1)+(1-.beta.)*x1(n,m) \quad (4)$$

See Col. 3, line 54-Col. 4, line 11.

X1 (n,m) is not a **change quantity**, obtained by inputting the change quantity, which correspond to the **variation in time of the feature quantity, but, in fact, is a feature quantity.**

Additionally, the reference teaches taking multiple differences between the short-term weighted average and the long-term weighted average. See equations 5, 6, 7 and 8

Neither dif(n,m), dif2(n,m), difl3(n,m) nor difllpo(n,m) is the claimed long-time average of **change quantities**, obtained by inputting the change quantities, which correspond to the **variation in time of the feature quantity.**

Accordingly, Takada fails to teach each and every limitation of Claim 1 and thus, Applicant submits that the claim is patentably distinct.

Further, with regard to Claim 3, in addition to being patentably distinct based upon its dependency from Claim 1, Applicant submits that Claim 3 is patentably distinct from the reference for the following additional reasons.

The reference does not teach or suggest that the filters are switched based on a past determination.

The Examiner identifies Col. 7, lines 4-20 as a teaching of switching the filters. The Applicant does not agree with the Examiner that the reference teaches a switch or switching of the filters **depending on a past determination**. The reference teaches that the value J1 is related to the change of the noise level and the changes of the short term weighted average value and the long-term weighted average value and is the smoothing value of the noise level. The J1 value is not the same as the value calculated and used in the claimed invention. J1 is calculated using equation 8 which is a function of diff3. Additionally, J1 is not depending on a past determination. In a disclosed embodiment, the specification describes that the first through fourth filters are switched to the fifth through twelfth filters when the long-time average of said change quantities is calculated. The switching is based upon the discriminating result of a past frame. For example, the first filter receives a determination flag and the first change quantities. Depending on the value of the determination flag, the first switch outputs the first changing quantities to either the fifth filter or the sixth filter. **When the determination flag is 1, the first switch outputs the first changing quantities to the fifth filter and when the determination flag is 0, the first switch outputs the first changing quantities to the sixth filter.**

Therefore, Claim 3 is patentably distinct from the reference. Claims 2, 4 and 5 are patentable based upon their dependency from Claim 1.

Applicant respectfully submits that the Examiner's rejection of Claims 27-31 under 35 U.S.C. § 102(e) based upon Takada is defective as the Examiner failed to establish a case for anticipation. Paragraph 6 of the Official Action does not address these claims in detail.

The Examiner also rejected Claims 27-31 under 35 U.S.C. § 102(b) as being anticipated by DeJaco. Applicant respectfully disagrees with the Examiner's rejection and traverses with at least the following analysis.

The Examiner avers that DeJaco teaches voiced/unvoiced discrimination based upon five distinct parameters, two of which are differential energy calculation and zero crossing.

Independent Claims 27-30, each recited either (i) a low band energy change quantity calculating section for calculating third change quantities of said low band energy, a third filter for calculating a long-time average of said third change quantities (Claim 27); (ii) a third change quantity calculating section for calculating third change quantities based on a difference between said low band energy and a long-time average thereof, a third filter for calculating a long-time average of said third change quantities (Claim 28); (iii) a process of calculating third change quantities of said low band energy; a process of calculating a long-time average of said third change quantities (Claim 29); and (iv) a process of calculating third change quantities based on a difference between said low band energy and a long-time average thereof; a process of calculating a long-time average of said third change quantities (Claim 30). Similar limitations are recited for the other parameters.

DeJaco does not teach these limitations and specifically fails to teach calculating change quantities and long-time averages thereof.

DeJaco discloses that frame energy differential element 10 receives the speech samples  $s(n)$  of the present frame and computes the energy of the speech signal in the present frame in

accordance with equation 9. See Col. 9, line 23-30. The energy of the present frame is compared to an average energy of previous frames  $E_{ave}$  using equation 10.

The factor alpha determines the range of frames that are relevant in the computation. Frame energy differential element 10 then generates the parameter ED in accordance with equation 11. Accordingly, equation 9 is used to calculate feature quantities. Equation 10 is used to calculate a long-term average of the feature quantities and not the change quantities, as specifically claimed.

Accordingly, the reference fails to teach calculating change quantities and long-time averages thereof.

Therefore, independent Claims 27-30 are patentably distinct from the cited reference.

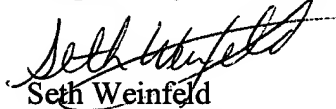
Lastly, Applicant submits that Claim 31 is patentable based upon its dependency from Claim 1.

Based upon the foregoing, Applicant respectfully requests that the Examiner withdraw the rejection of Claims 1-5, and 27-31 pursuant to 35 U.S.C. § 102(e) and the rejection of Claims 27-31 pursuant to 35 U.S.C. § 102(b).

In conclusion, the Applicant believes that the above-identified application is in condition for allowance and henceforth respectfully solicits the Examiner to allow the application. If the Examiner believes a telephone conference might expedite the allowance of this application, the

Applicant respectfully requests that the Examiner call the undersigned, Applicant's attorney, at the following telephone number: (516) 742-4343.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Seth Weinfeld", is written over a horizontal line.

Seth Weinfeld

Registration No: 50,929

Scully, Scott, Murphy & Presser  
400 Garden City Plaza  
Suite 300  
Garden City, New York 11530  
(516) 742-4343  
SMW:ae